NG | STONE
PORCELAIN SLABS

Application Guide

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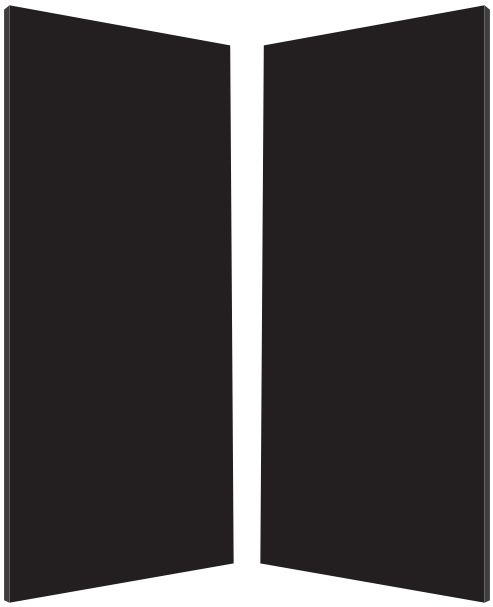

Application Guide

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Preparation Before Cutting

1. Preparation and Bench Setup:

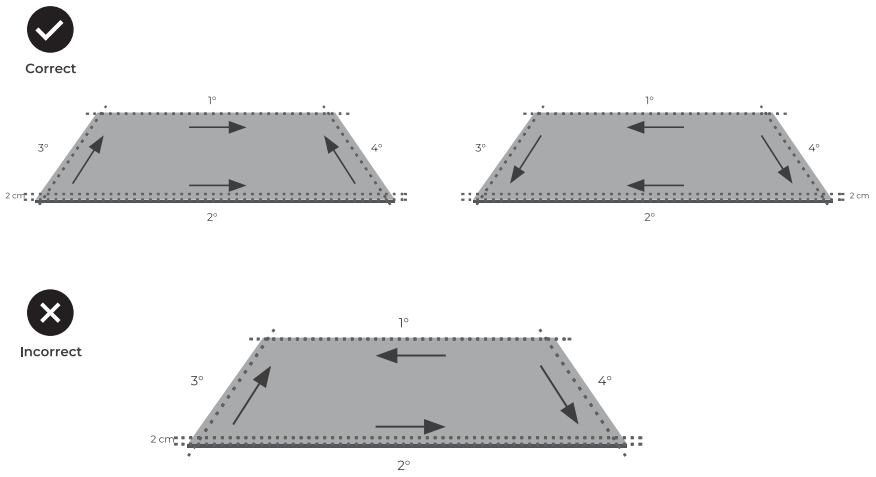
- The cutting machine to be used (marble or glass cutting machines are acceptable) must programmable and the cutting tools must be specifically designed for porcelain.
- The work bench must be perfectly flat and level.
- Any dust, debris or burrs remaining from previous work must be removed completely before starting the operation.
- Since porcelain is a sensitive material, the slab must be clamped to the bench very firmly and with no gaps underneath, in order to prevent vibration-induced cracks.

2. Before Cutting: Relieving the “Internal Stress”:

Before cutting NG STONE porcelain slabs, it is essential to trim at least 2 cm from all four edges of the slab in order to relieve the internal stress of the slab.

- Stress relief must be carried out first on the long edges, followed by the short edges, with each cut made in the same direction to ensure proper stress relief.

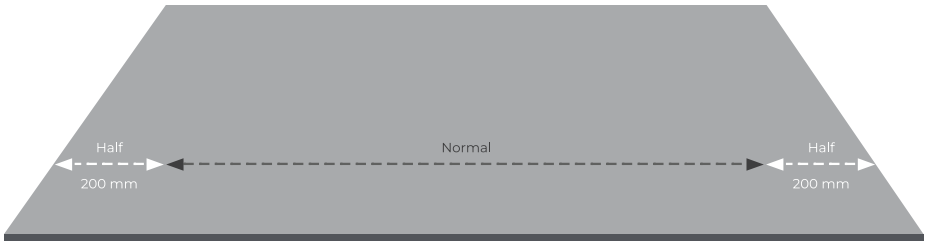
Caution: On slabs that have not been stress-relieved, the risk of cracking and breakage during cutting increases.



Cutting Recommendations

3. Use of a Standard Machine (Bridge Saw):

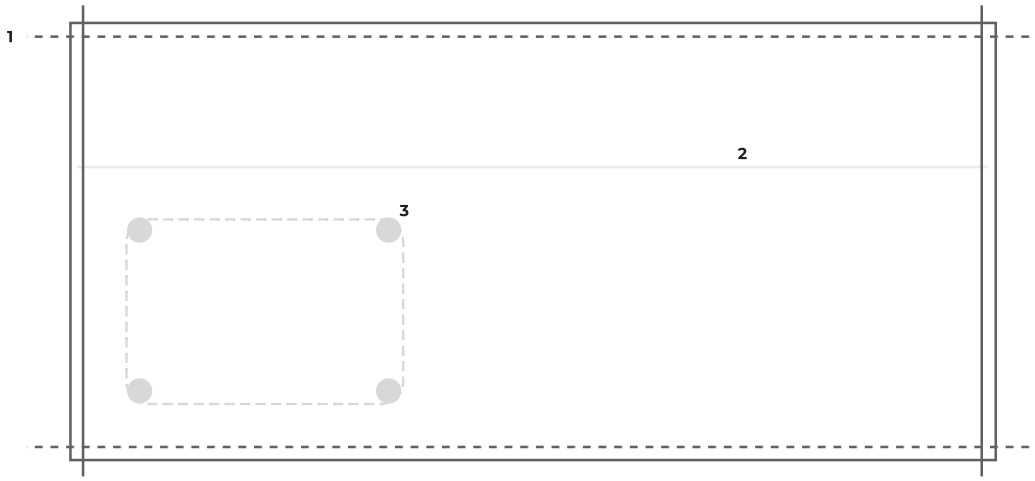
- The use of a "flange" (stabiliser) is recommended to prevent blade vibration. Ensure that the cutting blade is sharp and in good condition before starting the operation.
- Reduce the cutting speed to half the normal speed at the initial 20 cm of the cut and the final (20 cm).
- When performing a straight cut, do not interrupt the operation; complete the cut in a single continuous pass. Provide the maximum water flow to prevent the blade from overheating and spray the water directly onto the cutting point.
- The cutting blade must plunge deep enough to extend 1 mm below the slab (for example, for a 12 mm slab the blade must be set to a depth of 13 mm).
- The machine's plunge rate must be controlled to avoid applying excessive pressure to the slab.



Thickness	Straight Cutting Speed (m/min)	45° Mitre Speed (m/dak)	Ø Blade (cm)	Rpm
12 mm / 12+	2	1	35 - 40	2200

Cutting Recommendations

Cutting Sequence



1. Cutting starts by relieving the internal stress from the outer edges of the slab.

2. The slab is cut to its final dimensions.

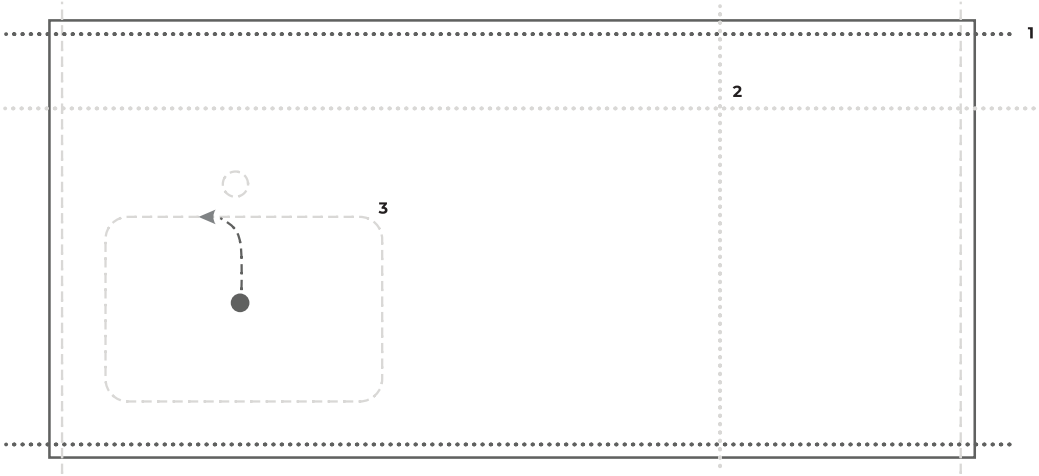
3. The cut-outs for the sink, hob or other fixtures are then machined.

Cutting Recommendations

4. Use of the Waterjet:

- Suitable for complex cuts with fine detail.
- The water pressure and the quantity of sand (abrasive) to be used must be set correctly in accordance with the specifications and a cut must be tested on a small sample before machining the actual workpiece.
- The cutting head must begin its travel from the open area outside the material and, on completing the cut, must again travel off the slab before stopping.

Cutting Sequence



1. Cutting starts by relieving the internal stress from the outer edges of the slab.

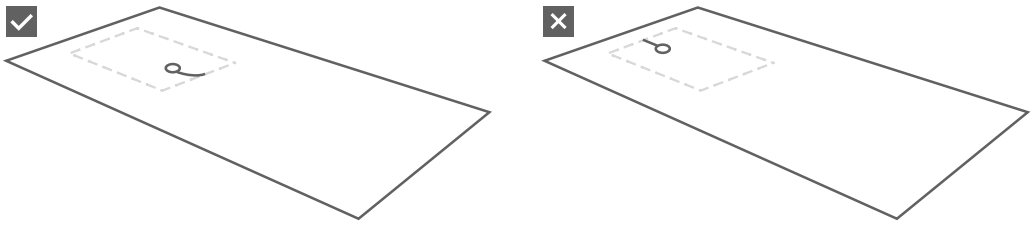
2. The slab is cut to its final dimensions.

3. The cut-outs for the sink, hob or other fixtures are then machined.

Thickness	Pressure (Bar)	Feed Rate (mm/min)	Cutting Abrasive	Piercing Start Pressure (bar)
12 mm / 12+	3600	500	400 (gram/dk)	2200

Cutting Recommendations

5. Machining Sink and Hob Openings (Internal Cut-Out Operations):



Caution: Do not initiate the piercing operation at a corner. The piercing point must be located away from the corners and the cut must be completed with an appropriate lead-in path. This method minimizes the risk of corner damage and ensures optimum cutting quality.

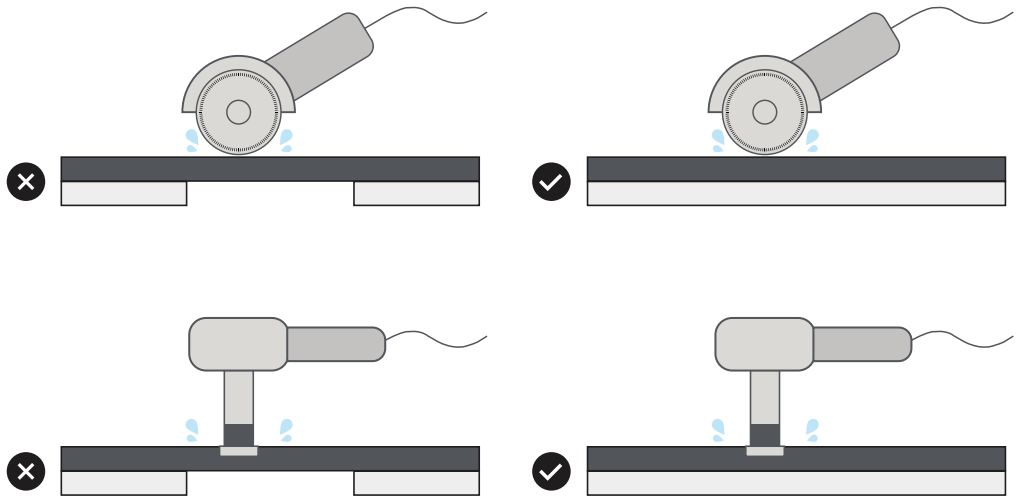
For internal cut-out operations within the slab, the following procedure must be followed carefully in order to eliminate the risk of cracking or brekage:

Process Step	Standard Rule / Application
Initial Piercing	To prevent the thermal / and mechanical shock at the initial piercing point, the water pressure must be kept **low**.
Cutting Start Point	The cut-out must be started not at the boundary of the area to be removed but, as a safety margin, **3 cm inside it**.
Approach to the Edge (Lead-In Path)	The cut started from inside must reach the actual cutting line using a smooth, curved lead-in path rather than a perpendicular entry.
Corner Radii	Corners must never be left square sharp (90 degrees) angles; in order to distribute the stress, all corners must be machined with a minimum **radius of 5 mm (R5)**.

Cutting Recommendations

6. Manual (Hand) Cutting:

- Manual cutting may be performed with hand-held tools such as an angle grinder, but the blades must always be diamond.
- Water must be applied continuously throughout the cutting operation to cool the blade and minimize the risk of overheating.
- The area directly beneath the cutting point must be fully supported; if the cut is made while the underside is unsupported, the slab will flex under its own weight and crack or break.



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The first step has been taken;
now it's time to explore!

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